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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,906	12/23/2004	Martin Pettersson	19378.0090	5391

7590 07/05/2007
Swidler Berlin
Shereff Friedman
Suite 300
3000 K Street NW
Washington, DC 20007

EXAMINER

MILLER, BRANDON J

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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07/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/518,906	Applicant(s) PETTERSSON, MARTIN	
	Examiner Brandon J. Miller	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over White et al. (US 2003/0227934 A1) in view of Chawla et al. (6,137,787).

Regarding claim 1 White teaches a method for communicating data in a time division multiple access system where the data is transmitted wirelessly between stations in time slots (see paragraphs [0025] & [0043]). White teaches transmitting an addressed message from a first base station to a mobile station (see paragraphs [0025] & [0038]). White teaches transmitting, in response to the addressed message an acknowledgement message from the mobile station (see paragraph [0038]). White teaches repeating the transmission of the addressed message from the base station to the mobile station until either a message handling entity being responsible for the transmission of the addressed message has received the acknowledgement message or a maximum number of retransmissions has been performed (see paragraphs [0039] & [0044]). White teaches receiving the acknowledgement message in a second base station (see paragraph [0038], transmitting and receiving nodes can be any number of a plurality nodes). White teaches forwarding an acknowledgement message from a second base station to a message handling entity, the message handling entity being connected to a network to which both a first base

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station and a second base station are connected, either directly or via at least one intermediate node (see paragraphs [0025] & [0038] and FIG. 1, message handling entity is considered to be an inherent component of network 100 because such a component is needed to deliver addressed messages to mobile stations via base station nodes (see paragraph [0038])). White teaches receiving the acknowledgement message in a message handling entity via the network (see paragraphs [0025] & [0038] and FIG. 1, message handling entity is considered to be an implied component of network 100 because such a component is needed to deliver addressed messages to mobile stations via base station nodes (see paragraph [0038])). White does not specifically teach time slots being organized in frames of a repeating frame structure, the stations selecting time slots for transmission of data according to a self-organizing transmission algorithm which allows a first station to reuse a time slot that is allocated to a second station. Chawla teaches time slots being organized in frames of a repeating frame structure and selecting time slots for transmission of data according to a self-organizing transmission algorithm which allows a first station to reuse a time slot that is allocated to a second station (see col. 6, lines 50-56 and col. 7, lines 32-57). It would have obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include time slots being organized in frames of a repeating frame structure, the stations selecting time slots for transmission of data according to a self-organizing transmission algorithm which allows a first station to reuse a time slot that is allocated to a second station because the combination would allow for an improved method for calculating a timeslot in which each receiving node transmits an acknowledgement message based on the position of their address in an addressed message (see White, paragraph [0013])).

Regarding claim 2 White teaches forwarding an acknowledgement message via a network to a message handling entity within a first base station [0038], ability of transmitting and receiving node to be any number of a plurality of nodes indicates that acknowledgment message can be forwarded and message handling entity is considered to be an inherent component of network 100 because such a component is needed to deliver addressed messages to mobile stations via base station nodes).

Regarding claim 3 White teaches forwarding an acknowledgement message via a network to a node in the network which is separated from a first base station [0038], ability of transmitting and receiving node to be any number of a plurality of nodes indicates that acknowledgment message can be forwarded and message handling entity is considered to be an inherent component of network 100 because such a component is needed to deliver addressed messages to mobile stations via base station nodes).

Regarding claim 6 White teaches wherein a first station is a mobile station (see paragraph [0025] and FIG. 1).

Regarding claim 7 White teaches a computer program directly loadable into an internal memory of a digital computer, comprising software for accomplishing steps (see claim 35).

Regarding claim 8 White teaches where a computer readable medium, having a program recorded thereon, where the program is to make a computer accomplish steps (see claim 35).

Regarding claim 9 White teaches a message handling entity for controlling data communication between at least one base station and at least one mobile station in a time division multiple access system where the data is transmitted wirelessly between the stations in time slots (see paragraphs [0025] & [0043], message handling entity is considered to be an

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inherent component of network 100 because such a component is needed to deliver addressed messages to mobile stations via base station nodes (see paragraph [0038])). White teaches a memory area adapted to hold status information pertaining to an addressed message sent from a base station to a particular mobile station (see paragraph [0028]). White teaches transmitting an addressed message from a first base station to a mobile station (see paragraphs [0025] & [0038]). White teaches receiving an acknowledgement message from a second base station, the acknowledgement message having been generated by the mobile station in response to the address message and sent to a second base station (see paragraph [0038], transmitting and receiving nodes can be any number of a plurality nodes). White teaches forwarding the acknowledgement message for processing to a message handling entity, and central unit (see paragraph [0038], ability of transmitting and receiving node to be any number of a plurality of nodes indicates that acknowledgment message can be forwarded and message handling entity is considered to be an inherent component of network 100 because such a component is needed to deliver addressed messages to mobile stations via base station nodes). White teaches ordering retransmission of the addressed message from the first base station, if after a predetermined interval from the transmission of the addressed message the status information remains intact in the memory area, order repeated retransmission a maximum number of times, and receive the acknowledgement and in response thereto clear, the status information in memory (see paragraphs [0039] & [0045], message considered lost relates to status information and information cleared when response is made). White does not specifically teach time slots being organized in frames of a repeating frame structure, the stations selecting time slots for transmission of data according to a self-organizing transmission algorithm which allows a first

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station to resuse a time slot that is allocated to a second station. Chawla teaches time slots being organized in frames of a repeating frame structure and selecting time slots for transmission of data according to a self-organizing transmission algorithm which allows a first station to resuse a time slot that is allocated to a second station (see col. 6, lines 50-56 and col. 7, lines 32-57). It would have obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include time slots being organized in frames of a repeating frame structure, the stations selecting time slots for transmission of data according to a self-organizing transmission algorithm which allows a first station to resuse a time slot that is allocated to a second station because the combination would allow for an improved method for calculating a timeslot in which each receiving node transmits an acknowledgement message based on the position of their address in an addressed message (see White, paragraph [0013]).

Regarding claim 10 White teaches a base station for communication data with at least other station in a time division multiple access system where the data is transmitted wirelessly between the stations in time slots (see paragraphs [0025] & [0043]). White teaches a transmitter adapted to transmit an addressed message to a mobile station (see paragraphs [0025] & [0038]). White teaches a memory area adapted to hold status information pertaining to an addressed message sent from a base station to a particular mobile station (see paragraph [0028]). White teaches receiving an acknowledgement message generated by the mobile station in response to the address message (see paragraph [0038]). White teaches forwarding the acknowledgement message for processing in a base station and a central unit (see paragraph [0038], ability of transmitting and receiving node to be any number of a plurality of nodes indicates that acknowledgment message can be forwarded). White teaches retransmitting the addressed

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message from the first base station, if after a predetermined interval from the transmission of the addressed message the status information remains intact in the memory area, repeat retransmission a maximum number of times, and receive the acknowledgement and in response thereto clear, the status information in memory (see paragraphs [0039] & [0045], message considered lost relates to status information and information cleared when response is made).

White teaches an interface towards a network to which at least one other base station is connected, the interface being adapted to receive acknowledgment messages from the at least one other base station and forwarding messages (see paragraphs [0025] & [0038]). White does not specifically teach time slots being organized in frames of a repeating frame structure, the stations selecting time slots for transmission of data according to a self-organizing transmission algorithm which allows a first station to reuse a time slot that is allocated to a second station.

Chawla teaches time slots being organized in frames of a repeating frame structure and selecting time slots for transmission of data according to a self-organizing transmission algorithm which allows a first station to reuse a time slot that is allocated to a second station (see col. 6, lines 50-56 and col. 7, lines 32-57). It would have obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include time slots being organized in frames of a repeating frame structure, the stations selecting time slots for transmission of data according to a self-organizing transmission algorithm which allows a first station to reuse a time slot that is allocated to a second station because the combination would allow for an improved method for calculating a timeslot in which each receiving node transmits an acknowledgement message based on the position of their address in an addressed message (see White, paragraph [0013]).

Regarding claim 11 White teaches a base station wherein the receiver is adapted to receive acknowledgement messages in respect of at least one other base station and the interface is further adapted to forward acknowledgment messages received in respect of the at least one other base station to the respective at least one other base station via the network (see paragraph [0038], ability of transmitting and receiving node to be any number of a plurality of nodes indicates that acknowledgment message can be forwarded).

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over White et al. (US 2003/0227934 A1) in view of Chawla et al. (6,137,787) and Smith (6,064,889).

Regarding claim 4 White and Chawla teach a device as recited in claim 1 except for permitting a first station to reuse a time slot allocated to a base station if the base station is located outside a threshold distance from a first station. Smith teaches a frequency reuse distance coverage area (see col. 6, lines 56-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include permitting a first station to reuse a time slot allocated to a base station if the base station is located outside a threshold distance from a first station because this would allow for an improved method for calculating a timeslot in which each receiving node transmits an acknowledgement message (see White, paragraph [0013]).

Regarding claim 5 Chawla teaches reusing a time slot allocated to a mobile station that is located at any distance from the first station (see col. 6, lines 50-56 and FIG. 4).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 5, lines 2-3, it is unclear how the first station can resuse a time slot allocated to a mobile station that is located at any distance when considering the limitation of claim 4, line 3-4, which states that first station can resuse a time slot allocated to base station only outside a threshold distance. Because claim 5 is dependent from claim 4 the above limitations render the claim indefinite for failing to particularly point out and distinctly claiming the subject matter.

The above art rejection is based upon the best possible claim interpretation in view of the rejection under 35 U.S.C. 112, second paragraph.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kalliojarvi et al. U.S Patent No. 7,158,503 B1 discloses placement of idle periods.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J. Miller whose telephone number is 571-272-7869.

The examiner can normally be reached on Mon.-Fri. 8:00 am to 5:00 pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to be "Brunner", written over the date.

June 25, 2007

A handwritten signature in black ink that reads "George Eng".

GEORGE ENG
SUPERVISORY PATENT EXAMINER